

PATENT USSN: 10/716,415
Atty Dkt: 034044.028

AMENDMENT

IN THE CLAIMS:

Please amend the claims as follows:

1. (Previously presented) A multilayer polymer-quantum dot light emitting diode comprising at least one aqueous soluble quantum dot layer between a first polymer layer and a spun coat second polymer layer or a first polymer layer and a spun coat organic molecule layer.
2. (Currently amended) The multilayer polymer-quantum dot light emitting diode of ~~claim 1~~ claim 18, wherein the quantum dot layer was formed using an aqueous suspension of quantum dots.
3. (Previously presented) The multilayer polymer-quantum dot light emitting diode of claim 2, wherein the aqueous suspension of quantum dots is stable.
4. (Currently amended) The multilayer polymer-quantum dot light emitting diode of ~~claim 1~~ claim 18, wherein the quantum dots are hydrophilic.
5. (Currently amended) The multilayer polymer-quantum dot light emitting diode of ~~claim 1~~ claim 18, wherein at least one of the polymer layers comprises a low molecular weight compound selected from the group consisting of polyaromatics and polyheteroaromatics.
6. (Currently amended) The multilayer polymer-quantum dot light emitting diode of ~~claim 1~~ claim 18, wherein at least one of the polymer layers comprises a high molecular weight compound selected from the group consisting of non-conjugated polymers and conjugated polymers.
7. (Currently amended) The multilayer polymer-quantum dot light emitting diode of ~~claim 1~~ claim 18, wherein the first polymer layer comprises a hole conducting polymer.

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8. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 +
claim 18, wherein the second polymer layer comprises an electron conducting polymer.

9. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 +
claim 18, wherein the organic molecule layer comprises an electron conducting organic
molecule.

10. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 +
claim 18, wherein the first polymer layer comprises polyvinyl carbazole (PVK).

11. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 +
claim 18, wherein the second polymer layer comprises t_n-PBD.

12. (Original) The multilayer polymer-quantum dot light emitting diode of claim 2, wherein the
quantum dots comprise a first element selected from Groups 2 and 12 of the Periodic Table of
the Elements and a second element selected from Group 16.

13. (Original) The multilayer polymer-quantum dot light emitting diode of claim 2, wherein the
quantum dots comprise a first element selected from Group 13 of the Periodic Table of the
Elements and a second element selected from Group 15.

14. (Original) The multilayer polymer-quantum dot light emitting diode of claim 2, wherein the
quantum dots comprise an element selected from Group 14 of the Periodic Table of the
Elements.

15. (Original) The multilayer polymer-quantum dot light emitting diode of claim 2, wherein the
quantum dots comprise an outer surface which is hydrophilic.

16. (Original) The multilayer polymer-quantum dot light emitting diode of claim 2, wherein the

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quantum dots comprise ZnS capped CdSe quantum dots.

17. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 claim 18, wherein the second polymer layer was deposited by spin coating.

18. (Currently amended) The A multilayer polymer-quantum dot light emitting diode of claim 1, wherein the quantum dot comprises comprising alternating layers of quantum dots that are soluble in aqueous solvents and quantum dots that are soluble in organic solvents between a first polymer layer and a spun coat second polymer layer or a first polymer layer and a spun coat organic molecule layer.

19. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 claim 18, wherein at least one quantum dot layer is deposited on top of the second polymer layer.

20. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 claim 18, which comprises alternating layers of quantum-dot layers and polymer layers, wherein the quantum-dot layers are soluble in aqueous solvents and the polymer layers are soluble in organic solvents alternate with the alternating layers of the quantum dots.

21. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 claim 18, wherein one of the quantum dot layers comprises quantum dots that are the same or different from quantum dots in another quantum dot layer.

22. (Currently amended) The multilayer polymer-quantum dot light emitting diode of claim 1 claim 18, wherein the first polymer layer comprises PVK, the quantum dot layer comprises an aqueous suspension of ZnS capped CdSe quantum dots, and the second polymer layer comprises tu-PBD that was deposited on the quantum dot layer by spin coating.

23. (Currently amended) A method of making the multilayer polymer-quantum dot light emitting diode of claim 1 claim 18, which comprises depositing the quantum dot layer on the first polymer

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layer and then depositing the spun coat second polymer layer on the quantum dot layer by spin coating.

24. (Original) The method of claim 23, and further comprising depositing the quantum dot layer as an aqueous suspension of quantum dots.

25. (Original) The method of claim 24, and further comprising making the aqueous suspension of quantum dots by making the quantum dots hydrophilic.

26. (Currently amended) A device which comprises the multilayer polymer-quantum dot light emitting diode of ~~claim 1~~ claim 18.

27. (Currently amended) A kit which comprises the multilayer polymer-quantum dot light emitting diode of ~~claim 1~~ claim 18 and instructional material.

28. (Currently amended) A kit which comprises at least one reagent for making the multilayer polymer-quantum dot light emitting diode of ~~claim 1~~ claim 18 and instructional material.

29. (Original) The kit of claim 28, wherein the reagent is an aqueous suspension of quantum dots.